

Code of Safety for
**Fishermen and
Fishing Vessels**
2005

Part A
Safety and Health Practice



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Preface

1 A resolution adopted by the Committee on Conditions of Work in the Fishing Industry, which was convened by the International Labour Organization (ILO) in December 1962 to study certain aspects of working conditions of crew on fishing vessels, recommended the creation of a practical international code dealing with navigational, operational and occupational aspects of safety of fishing vessels and crew, and urged ILO in collaboration with the Food and Agriculture Organization of the United Nations (FAO) and the Inter-Governmental Maritime Consultative Organization (IMCO)* to examine the possibility of establishing a suitable body to prepare such a code.

2 Considering that it was desirable to co-operate within their respective fields of competency, in order to extend the scope of the proposed safety code for fishing vessels to make reference to all aspects of the safety of fishing vessels and crew, the three organizations subsequently entered into an agreement with respect to the principles of co-operation and the areas of mutual interest and responsibility in the field of fishing vessels and fishing vessel crew members, namely FAO, fisheries in general; ILO, labour in the fishing industries; and IMO, safety of life, vessels and equipment at sea.

3 Following the above agreement, draft contributions to the Code of Safety for Fishermen and Fishing Vessels were prepared by FAO, ILO and IMO. It was agreed that the Code should be divided into two parts: part A for skippers and crews, and part B for fishing vessel builders and owners.

4 Part A of the Code was adopted by the first session of the Joint FAO/ILO/IMO Meeting of Consultants on Safety on Board Fishing Vessels which was held at ILO Headquarters in Geneva in September 1968.

5 Later amendments to Part A were approved by the IMO Maritime Safety Committee (MSC) at its thirtieth session in the Spring of 1973. At the same session, the Committee approved the final text of part B which was endorsed by the FAO Council at its 64th session (Autumn 1974) and also endorsed by the Governing Body of the ILO at its 195th session (February 1975).

6 In 1977, an International Conference on the Safety of Fishing Vessels adopted the Torremolinos International Convention on the Safety

* The name of the Organization was changed to "International Maritime Organization" (IMO) by virtue of amendments to the Organizations' Convention which entered into force on 22 May 1982.

of Fishing Vessels, 1977, that, for a number of reasons, has not entered into force. Consequently, a further International Conference was convened, also in Torremolinos, Spain that adopted the Torremolinos Protocol of 1993 relating to the Torremolinos International Convention for the Safety of Fishing Vessels, 1977.

7 Resolution 4 of the Conference requests IMO to review, as a matter of priority the FAO/ILO/IMO Code of Safety for Fishermen and Fishing Vessels, part A and part B. The Code of Safety for Fishing Vessels, part B, addresses safety and health requirements for the construction and equipment of fishing vessels of 24 m in length and over.

8 The MSC entrusted the revision of the Code to its Sub-Committee on Stability and Load Lines and on Fishing Vessels Safety (SLF) and recommended that the recent developments in fishing vessel design and fishing operations should be taken into consideration. The MSC also entrusted SLF to revise the Voluntary Guidelines for the Design, Construction and Equipment of Small Fishing Vessels, that had been approved by MSC in 1979, which addresses vessels of 12 m in length and over but less than 24 m in length. In this regard, IMO was requested to invite FAO and ILO to participate in the revision.

9 At its forty-second session, the SLF Sub-Committee established an intersessional correspondence group for the revision of part B of the Code and the Voluntary Guidelines. Later, at its forty-fifth session in July 2002, FAO and ILO submitted a proposal to commence the revision of part A. The Sub-Committee considered that unlike the current version, which was intended to be read by crew members on fishing vessels, the revised version should be directed primarily towards Competent Authorities, training institutions, fishing vessel owners, representative organizations of the crew, and non-governmental organizations having a recognized role in crew members' safety and health and training. Competent Authorities would be encouraged to make use of the contents of the Code in the production of safety and health and training materials in an appropriate format to suit the particular needs of the fisheries of the country or region and in local languages.

10 ILO's Tripartite Meeting on Safety and Health in the Fishing Industry (December 1999), in its report to the 277th Session of the Governing Body of ILO (March 2000), had concluded, *inter alia*, that ILO should participate in the revision of part B, Safety and Health Requirements for the Construction and Equipment of Fishing Vessels, of the Code and, following consultation with IMO, should take a leading role in revising part A, Safety and Health Practice, of the Code.

11 The revised Code and Voluntary Guidelines were approved by MSC at its seventy-ninth session in 2004 and approved by the FAO Committee on Fisheries at its twenty-sixth session in March 2005 and the Governing Body of ILO at its 293rd Session in June 2005.

12 Concerning the procedures for future amendments to the Code and the Voluntary Guidelines, MSC considered that any amendments should be effected as expeditiously as possible. It was agreed that non-controversial amendments should be approved by correspondence, but joint meetings of experts might be necessary for other amendments for which no ready agreement by correspondence could be reached.

13 Recognizing that the majority of items covered by the Code are within the scope of IMO and noting the different working procedures within the three Organizations and also that the SLF Sub-Committee holds regular meetings, it was agreed that:

- .1** IMO should act as a focal point for co-ordinating proposed amendments to the Code and, in particular, the IMO Secretariat should undertake to receive any proposed amendments, to distribute them to the Organizations and to collate their respective comments;
- .2** any future joint FAO/ILO/IMO meeting should be held, whenever possible, in conjunction with a meeting of the SLF Sub-Committee; and
- .3** any proposed amendments should always be subject to the final approval of the appropriate bodies of the three Organizations.

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Introduction

1 Work at sea has never been without danger, and the fishing industry has a long and growing roll of honour of crew who have lost their lives in the performance of their work. Fortunately, loss of life in most types of fishing is now very much less frequent than it was only a few generations ago, but no technological advances can fully eliminate the forces of the sea and other natural dangers which crew have to face, nor is it possible to eliminate the human errors or to make the tools of the fishing activity – the fishing vessels and fishing gear – completely accident-proof. Fishing has, in many countries, already become a highly developed industry employing complex machinery, and this development necessitates the introduction and expansion of safety measures along lines similar to those which apply to other major industries.

2 Training has only been used as a method to promote safety in the fishing industry in developing countries in the last fifty years. The dangerous nature of the fishing industry has called for specialized training for crew members prior to going to sea. Most developed countries have already adopted this course of action and have made such courses mandatory. These countries have also sought to tackle the problem of safety in the fishing industry by having mandatory qualifications for the senior positions on board a fishing vessel. These are usually the skipper, mate and chief engineer. Dependent on the size of vessel and/or area of operation, other crew members might also require mandatory training (e.g. radio officers, etc.).

3 Although the Members of IMO decided that the collection and analysis of statistical information on casualties of fishing vessels and fatalities of crew members should be prepared on an annual basis, they acknowledged in 1999 that there had been a very limited response. This lack of information is most likely to be caused by the informal employment arrangements in fishing, which may place many crew members outside traditional occupational accident reporting systems. Knowing where and how accidents occur can identify suitable measures for intervention. The “human factor” causes many accidents, which can be attributed to inadequate training, lack of experience and skills, recklessness, undermanning and fatigue. The Competent Authority should ensure that investigation of accidents resulting in death of crew, and other incidents resulting in damage to the vessel or severe injury to the crew, should normally be the subject of a formal investigation.

4 Some Competent Authorities have estimated that half of the fatalities in the fishing industry are caused by accidents to the fishing

vessel. Therefore, a very effective method to reduce crew fatalities is to ensure that the vessel is safe. The compulsory periodical inspection of a vessel and the validation of the same by a Safety Certificate will inevitably reduce accidents to the vessels and the crew. The skipper and crew of a vessel are those most conversant with the fishing vessel, the deck machinery and the fishing gear they are operating with. They are also aware of the hazards that can occur during fishing and know when, where and how they occur. By analysing these possible hazards, the crew can play a vital role in taking preventative action to reduce or eliminate these hazards. This procedure can be assisted by a formal procedure whereby the skipper is encouraged to perform this analysis. This concept has been readily adopted in the maritime sector.

5 The high accident rates that continue to affect the fishing industry despite mandatory safety schemes and top-down approaches have encouraged safety practitioners to propose that a more holistic approach to safety and health culture in the fishing industry should be engendered. Developing safety and health awareness and promoting sensitization of the fishing communities to take into account the cost of neglecting the safety and health issue is also advocated.

6 The economical and social conditions under which the fishing industry operates is also recommended as a potential area for study in relation to accidents at sea. This encourages investigating issues that have not traditionally been taken into account in discussing safety in the fishing industry such as the method of remuneration of the crew which, in most cases, is based on a share of the catch. This has often been cited as a contributory factor in accidents. These should be investigated to see how mitigating measures could possibly reduce the accident rate. The methods of fisheries management have also been cited as a contributory factor to accidents, and Competent Authorities should be working together to introduce safety at sea as a factor to be taken into account when introducing new fisheries management measures. On the other hand, the insurance of fishing vessels, or more specifically, the lack of it, has been identified as a factor that can influence the accident rate.

Section I

General

Chapter 1

General provisions

1.1 Purpose and scope

1.1.1 The purpose of this part of the Code is to provide information with a view to promoting the safety and health of crew members on board fishing vessels.

1.1.2 This part of the Code may also serve as a guide to those concerned with framing measures for the improvement of safety and health on board fishing vessels but is not a substitute for national laws and regulations.

1.1.3 The scope of this part of the Code is limited to such basic information as is necessary for the safe conduct of fishing operations and each Competent Authority should take every possible measure to promote safety and health aboard all fishing vessels.

1.2 Definitions

For the purpose of this part of the Code:

1.2.1 *Fishing vessel* is a vessel used commercially for catching fish, whales, seals, walrus or other living resources of the sea. Certain provisions of this part of the Code may also apply to vessels used for the processing and/or cold storage of the catch.

1.2.2 *Owner* means any person or entity having assumed the responsibility for the operation of the vessel.

1.2.3 *Skipper* means the person having command of a fishing vessel.

1.2.4 *Crew* means the skipper and all persons employed or engaged in any capacity on board a fishing vessel on the business of that vessel.

1.2.5 *Competent Authority* is the Government of the State whose flag the vessel is entitled to fly.

1.2.6 *Length (L)** should be taken as 96% on the waterline at 85% of the least depth measured from the keel line, or as the length from the foreside of the stem to the axis of the rudder stock on that waterline, if that be greater. In vessels designed with rake of keel, the waterline on which this length is measured should be parallel to the designed waterline.

1.3 Surveys

1.3.1 Instructions for the survey of fishing vessels should include aspects of crew members' safety and health as set out in this part of the Code.

1.4 Co-operation and consultation

1.4.1 The safety and health of the crew of a fishing vessel is best assured through effective co-operation and consultation between the Competent Authorities, fishing vessel owners, skippers and crew members, as well as trainers and occupational safety and health personnel.

1.4.2 The implementation and monitoring of safety and health programmes may be enhanced through the provision of advisory bodies at the local and national level that would facilitate consultation between representatives of vessel owners and fishing vessel crew members, as well as trainers and representatives from the Competent Authority, and may include maritime and fisheries administration and occupational safety and health services.

1.4.3 For guidance on the participation of the fishing vessel crew members, see paragraph 2 of appendix 1 to the annex, Safety assessment and management.

* Definitions are illustrated in annex I to part B of the Code.

Chapter 2

Duties and responsibilities

2.1 The Competent Authority should prepare and implement laws and regulations and other measures to ensure the safety and health of crew members and the safety of fishing vessels, taking into account the provisions of this Code.

2.2 Competent Authorities should, *inter alia*:

- .1 ensure that all crew members have access to adequate training in safety and health practices;
- .2 ensure that a minimum age is set for entry into the fishing industry;
- .3 consider minimum levels of manning for various classes and sizes of fishing vessels;
- .4 ensure that there is a system of accident reporting and investigation in place;
- .5 encourage crew members to promptly report to the skipper, owner and, where necessary, the Competent Authority any defect discovered on board which is liable to cause an accident;
- .6 encourage owners and operators of fishing vessels to adopt safety assessment procedures. In this regard, the Competent Authority should provide guidance on the development of such procedures (see appendix 1 of the annex, Safety assessment and management);
- .7 provide for regular inspections of fishing vessels;
- .8 take into account the principles of the ILO's Guidelines on occupational safety and health management systems (see appendix 20 of the annex, Annotated list of pertinent publications); and
- .9 facilitate access to insurance or other financial security by bodies, companies and persons who employ crew members, as well as representative organizations of the crew.

2.3 Owners should:

- .1 introduce, as appropriate, a safety and health programme including a system of "safety assessment procedures" and ensure that supervisors and skippers are aware of their respective responsibilities in relation to its implementation;

- .2** provide instruction materials for use on board in an appropriate format and in the local language;
 - .3** provide to each new entrant a briefing, accompanied by a booklet of elementary precautions based on the provisions of this part of the Code. In particular, crew members should be made aware of the need:
 - .3.1** to make proper use of all safeguards, safety devices and other appliances furnished for their protection or the protection of others;
 - .3.2** that except in cases of necessity, or when duly authorized, they should not remove, alter or interfere with any safety device or other appliance furnished for their protection or the protection of others, or interfere with any method or process adopted with a view to avoiding accidents and injury to health;
 - .3.3** to acquaint themselves with and obey all safety and health instructions pertaining to their work;
 - .3.4** to refrain from careless or reckless practices or actions likely to result in accidents or injury to health to themselves and others, or which may cause damage to equipment;
 - .3.5** to understand that it is in the interest of all crew members that they should be able to swim; and
 - .3.6** to refrain from excessive use of alcohol and/or the misuse of drugs;
 - .4** ensure that crew members are aware of their responsibility and right to promptly report to the skipper, their employer or, if necessary, the Competent Authority, any defect discovered on board which is liable to cause danger. If a defect is such as to cause immediate danger, the use of the equipment affected should not be permitted until corrective action has been taken; and
 - .5** ensure that fishing vessels are adequately covered by insurance policies or other financial security, to protect the crew of such vessels and the interests of the crew.
- 2.4** Skippers, as the owner's representative, have the overall responsibility for the safety of the crew and the safe operation of the fishing vessel and should:
- .1** manage the owner's safety and health programme and implement the safety management system;
 - .2** confirm that crew, and to whom it is appropriate, have made themselves aware of their individual duties and responsibilities in respect of the safety and health programme;
 - .3** facilitate occupational safety and safety awareness training both on board and ashore, as appropriate;

- .4 manage the members of the crew in a manner which respects the issues of safety and health including fatigue;
- .5 develop, together with the owner, a pre-departure sea safety checklist, in an appropriate format, for use by the skipper and the shore staff;
- .6 ensure that the numbers of crew members on board are sufficient for the safe navigation of the vessel and for fishing operations;
- .7 ensure that all crew are above the minimum age set by the Competent Authority and that they are physically and medically fit for work on board a fishing vessel;
- .8 provide such supervision as will ensure that as far as possible crew members perform their work in the best conditions of safety and health;
- .9 designate persons or groups of persons whose duty it is to ensure that the relevant provisions of this part of the Code are applied;
- .10 post in prominent places on board fishing vessels warning notices and instructions whenever required by any safety regulations or in accordance with safe practice standards;
- .11 be aware of their responsibility to enter in the log-book, or otherwise properly record and report to the Competent Authority, any accident occurring on board, while the vessel is at sea or in port. In addition, skippers should ensure that any defective equipment, which has been involved in an accident, is retained for examination;
- .12 ensure that, in order to minimize accidents due to fatigue, crew members should be granted adequate rest periods; appendix 2 to the annex may be used as a guide;
- .13 ensure that there is no excessive use of alcohol or misuse of drugs; and
- .14 ensure that information relating to the insurance or other financial security in relation to the vessel and the crew is made available to all crew members.

2.5 Crew members should:

- .1 comply with orders and instructions, taking care in their action to safeguard life, health and welfare;
- .2 express views on working procedures adopted as they may affect safety and health;
- .3 co-operate with the owner, the skipper and other members of the crew to maintain their own health and safety as well as the health and safety of other crew members and other persons on board;

- .4 on becoming aware of defects or deficiencies which may involve a risk to life or health, they should, if the risk cannot be averted, notify the person responsible on board, as soon as possible;
- .5 use and take care of personal protective equipment and clothing at their disposal and not misuse such equipment;
- .6 participate in safety and health education, discussion and, where appropriate, meetings;
- .7 not operate or interfere with equipment which they have not been duly authorized to operate, maintain or use;
- .8 if they give an order or otherwise instruct another, they should be certain that the order or instructions are understood;
- .9 if they do not fully understand an order, instruction or any other communication, from another member of the crew, seek clarification;
- .10 be particularly diligent during fire, lifeboat and other drills and emergency training;
- .11 organize time off duties so as to be rested and otherwise fit to carry out their duties; and
- .12 make themselves aware of the type and extent of insurance coverage or other financial security in relation to the vessel and crew.

2.6 Institutions concerned with the training of crew members in matters of safety and health should ensure that:

- .1 crew members are properly instructed in the dangers of their occupation and the precautions necessary to avoid accidents and injury to health and in particular that new entrants into the fishing industry are properly instructed in accordance with this part of the Code;
- .2 training modules are consistent with types of vessel on which the crew member has to serve and fishing gear to be used;
- .3 training programmes and materials are presented in an appropriate format;
- .4 curricula and training modules are based on this part of the Code and, where appropriate, the Document for Guidance on Training and Certification of Fishing Vessel Personnel;
- .5 consideration is given to the level of education of the trainees; and
- .6 those responsible for extension work within the industry formulate public awareness programmes specifically directed at families of crew members on aspects of safety and health.

Chapter 3

Education, training, safety awareness and related issues

3.1 Introduction

3.1.1 This chapter deals with the issue of training of crew members in all sizes of vessel and in all regions of the world. It also considers other related measures that can be implemented by Competent Authorities and local communities to increase the safety of crew members and fishing vessels.

3.2 Training

3.2.1 There is every reason to believe that safety training has had the effect of reducing the rates of injuries and fatalities, although for many reasons, this is difficult to prove with concrete figures.

3.2.2 There is now general consensus amongst safety promoters that obligatory safety training is the prerequisite for any success in reducing the level of accidents in the fishing industry.

3.2.3 The dangerous nature of the fishing industry has called for specialized training for crew members prior to going to sea. Most developed countries have already adopted this course of action and have made such courses mandatory. Many pre-sea safety courses in developed countries are identical, or very similar to courses agreed by international conventions for trading vessels and as described in IMO Model Courses. Survival at sea courses are also independent of the size and type of vessel. The certificates from such courses have the added advantage of occupational mobility for the trainee and the rationalization of expensive training resources between the trading and fishing industries. The certificates from such approved basic training also have the added advantage that they are internationally recognized.

3.2.4 The enactment of national legislation is required to make pre-sea training courses mandatory or to introduce qualifications and examinations as a mandatory requirement for positions of seniority on a fishing vessel. In some countries where there is devolvement of powers to provincial level for fisheries or marine safety, the legislation will have to be enacted at provincial or State level.

3.2.5 In coastal communities or island communities where a substantial percentage of the population live in close proximity to the sea and are likely to be on boats, be it for employment or pleasure, sea safety courses could be considered as part of the general education.

3.3 Certificates of competency

3.3.1 In the past, experience and on-the-job training were the main requirements to attain a position of authority on a fishing vessel. This is still the case in many developing countries. The training of those in charge of larger vessels, skippers, mates and chief engineers, have been addressed by the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel, 1995 (STCW-F). Although this Convention is not yet in force, it can be regarded as a format for Competent Authorities to adopt in their national legislation.*

3.3.2 On the other hand, the Document for Guidance on Training and Certification of Fishing Vessel Personnel recommends courses and syllabi for all sizes of fishing vessels, including those not addressed by the 1995 STCW-F Convention.

3.3.3 More recently, the rapid advances in technology have drawn attention to the fact that the passing of an examination at a young age is insufficient to educate crew members for life. Following the example of the trading seafaring certificates, the concept of revalidation of Certificates of Competency for the fishing industry has been suggested. Revalidation can ensure that serving crew members are kept up to date with advances in technology and associated practices. This is also important when individuals have had breaks in service and require updating prior to resuming a seagoing career.

3.3.4 It should be noted that, in the past, the admittance to examinations for Certificate of Competency was open and did not require attendance at training courses. However, over the last twenty years there has been a concentration on mini-courses at which attendance is mandatory in order to acquire subsidiary qualifications that are necessary for a candidate to be issued with a Certificate of Competency (e.g. radar courses, survival courses, first aid, fire fighting, GMDSS, etc.). In many of these courses, the requirement is for satisfactory completion of such courses rather than passing examinations.

3.3.5 When certificates are introduced for the first time, it has been the convention that Competent Authorities issue a “Certificate of Service”, by a minimum of examination, to experienced crew members who have held the equivalent position for a number of years. This is because the candidates have, to a great extent, demonstrated their competence by the virtue of their experience. It also avoids opposition by the fishing industry to the introduction of mandatory certificates.

3.3.6 One of the requirements for candidates for deck certificates of competency is that they are required to pass an eyesight examination, which requires a colour blindness test. For this reason, new entrants into

* Refer also to IMO Assembly resolution A.925(22) on the Entry into force and implementation of the 1993 Torremolinos Protocol and the 1995 STCW-F Convention.

the fishing industry are strongly recommended to undertake a colour blindness test prior to undertaking fishing as a career.

3.4 Accident prevention and investigation

3.4.1 Although the Members of IMO decided that the collection and analysis of statistical information on casualties of fishing vessels and fatalities of crew members should be prepared on an annual basis, they acknowledged in 1999 that there has been a very limited response. This lack of information is most likely to be caused by the informal employment arrangements in fishing, which may place many crew members outside traditional occupational accident reporting systems.

3.4.2 Knowing where and how accidents occur, suitable measures for intervention can be identified. The “human factor” causes many accidents, which can be attributed to inadequate training, lack of experience and skills, recklessness, undermanning and fatigue. The Competent Authority should ensure that all accidents resulting in death of crew be investigated as appropriate. Other incidents resulting in damage to the vessel or severe injury to the crew, as well as dangerous incidents, should be reported to the maritime administration and, if necessary, subject to a formal investigation by an independent unit within the maritime authority.

3.4.3 If necessary, the results of these investigations should be made available in the public domain. This information should also be relayed back to the industry in short to-the-point safety information notes, which highlight areas where accidents are occurring (e.g. Notices to Mariners). The results of Maritime Investigation Boards should provide feedback to lecturers and examiners for Certificates of Competency and pre-sea safety courses. This should ensure that the examination candidates are conversant with the type of accident that is occurring within the local industry and skippers can be informed on how these types of accident can be prevented.

3.4.4 Accidents to the vessel may cause injury to the crew, which in many cases result in multiple fatalities. Some Competent Authorities have estimated that half of the fatalities in the fishing industry are caused by accidents to the fishing vessel. Therefore, a very effective method to reduce accidents to the crew is to ensure that the vessel is safe. The requirements for safety certificates, which require a periodical inspection of a vessel, will inevitably reduce accidents to the vessel and crew.

3.5 Safety assessment

3.5.1 The skipper and other members of the crew of a vessel are those most conversant with the fishing vessel, the machinery, including the deck machinery, and the fishing gear they are operating with. They are also most aware of the hazards that can occur and can anticipate when, where and how they are liable to occur. By analysing these possible hazards, the

crew can play a vital role in suggesting preventative action to reduce or eliminate these hazards. This process can be better achieved through procedures introduced by the fishing vessel owners, with the assistance of the Competent Authorities, and could include safety assessment and shipboard or shoreside safety committees. However, the Competent Authority should ensure that assistance is provided to crew members undertaking safety assessment where literacy levels preclude preparation of a written report.

3.5.2 As noted above, the process of safety assessment could be enhanced by the establishment of a safety and health committee. Such committees may be organized ashore or on board vessels as is appropriate to the vessels and crew members concerned.

3.5.3 An advantage of the safety assessment approach is that it provides a process whereby the crew members have to think about safety on their own vessel and fishing method as opposed to relying on a generic approach that may not be appropriate for their specific situation.

3.5.4 Guidance on safety assessment and safety committees is provided in [appendix 1](#) to the annex.

3.6 Insurance

3.6.1 Insurance can contribute to the improvement of safety on fishing vessels by highlighting the factors that cause accidents. The insurers can financially analyse their business to reduce the costs, and by doing so, identify the type of accidents that are occurring and where they are encountering financial loss. By reducing the premiums paid for fishing vessels that undertake specific safety precautions, the insurers can thereby provide an incentive for improving safety in the fishing industry.

3.6.2 However, such insurance schemes are not always available, particularly to small-scale fisheries operations.

3.6.3 Furthermore, in many parts of the world, the difficulties in accessing insurance coverage through the commercial market are often compounded by the lack of foreign exchange and, where they exist, mutual insurance schemes whereby the crew members can set up their own insurance co-operatives are not always successful for very similar reasons making it impossible to effect reinsurance. Where this would be the case, Competent Authorities should facilitate access to insurance by those who employ crew members, as well as associations of crew members. Thereafter, particularly where there is no social security net in place, it should be possible for the Competent Authority to require that the crew of a fishing vessel should be adequately covered by insurance or other financial security, whether they are on board or travelling to or from such vessel.

3.6.4 It should follow, therefore, that it would be the duty of those who employ crew members to ensure that fishing vessels are adequately

covered by insurance policies or other financial securities to protect the crew of such vessels and the interests of the crew, to indemnify third parties against loss or damage and to protect their own interests. In particular, they should ensure, for example, that the crew are adequately covered for such risks as illness, personal injury, death, wages and shipwreck unemployment indemnity, loss or damage to the effects of a crew member, as well as such needs for medical examination. Competent Authorities should facilitate access to insurance by bodies, companies and persons who employ crew members, as well as associations of crew members.

3.7 Community safety organizations

3.7.1 The high accident rate that the fishing industry has experienced has led to the formation of volunteer groups that are associated with marine safety. The provision of lifeboats has been one of the most successful of these. Many countries have a lifeboat service under various means of funding. Generally manned by volunteers with seagoing experience, they know the local conditions.

3.7.2 In the past coastguard crews were voluntary; however, the Coastguard has now tended to become a professional occupation. The use of helicopters for rescue services has also been common in recent years and although they have advantages in speed and safety there are times in very bad weather that they cannot operate and in some cases they are limited by range of operation. Under these conditions, there is no option but to rely on the lifeboats.

3.8 Community safety awareness programmes

3.8.1 One of the surprising results of investigations into the safety at sea in the fishing industry is that, in many cases, crew members do not tend to regard their occupation as particularly dangerous or tend to adopt a fatalistic view of the occupational danger. The fact that they all probably know someone who has died or drowned does make them aware of the risk to themselves. Indeed a high risk of loss of life or injury has been accepted as part of the fishing culture. Many have likened this to the fatalistic view that man takes when confronted with the massive forces of nature.

3.8.2 Studies have shown that one of the most cost-effective methods of dealing with the safety problem in the fishing industry would be safety awareness programmes. Under such programmes crew members would be made aware of the dangers they were undertaking and the probabilities of them losing their life at sea. They would also be informed on safety practices that would reduce the probability of accidents and which would increase the possibility of survival should an accident occur. This would include informing someone of where they were going to fish, when they

would be expected to return and what action to take if they did not return by a particular time.

3.8.3 The use of a checklist of items to be carried on a small vessel would also be very practical. It should also be mentioned that these studies also found that the crew members' spouses were very receptive to safety awareness programmes, realizing that should a crew member lose his/her life, his/her widow/widower and children would be impoverished in the absence of a social security provision.

3.9 Remuneration systems

3.9.1 In addition to the factors mentioned above, it has been noted that the system of remuneration in the fishing industry may affect safety at sea. The basic types of remuneration prevailing in fisheries are the share system and the system of a wages plus catch bonus. The first is more widespread and is often combined with a minimum wage assurance, while the second is restricted to vessels over a certain size administered by structured companies, and often involves agreements that regulate working hours among other issues.

3.9.2 As with any payment system, "share fishing", whereby the crew member is paid by a share of the catch, has both advantages and disadvantages. Those in favour of it say that it increases motivation, creates team spirit and gives every crew member a stake in the results achieved. It also distributes the risk between the owner and the crew members during spells of poor fishing and, when things go well, the crew benefit directly. There is no doubt that the share fishing system motivates crew members to work harder and for longer hours, which in itself contributes to risk through fatigue. It may also increase the motivation to go fishing under adverse weather conditions, to take risks while fishing in the hope of increasing the catch and to overload the vessel when the fishing goes well. The authorities, vessel owners and crew members should scrutinize the operation of the share fishing system with the aim of reducing elements that contribute to risk-taking.

3.9.3 Although working conditions and efficiency have improved in many ways with increased mechanization, new dangers have been introduced and strain on the crew is still considerable, not least because of the reduction in numbers of crew to reduce costs.

3.10 Fisheries management

3.10.1 It should be noted that fishing regulations and management may well have a direct influence on marine safety for crew members. The increasing use of fisheries management measures to restrict fishing effort, and hence to reduce pressure on fish stocks, could have an impact on fishing vessel safety by encouraging unsafe practices. Some of these measures, such as those that limit duration of the fishing seasons or

directly restrict the number of days during which crew members are allowed to fish, tend to cause fatigue, which in turn causes accidents. By contrast, management based on the amount of fish caught, rather than on the time it takes to catch the fish, allows more rational planning in order to reduce risks and avoid fatigue. Some fisheries management measures tend to be more concerned with the long-term conservation and sustainable use of fisheries resources than with the welfare of those who harvest them.

3.10.2 Co-management in the regulatory process, in which stakeholder/user groups have the formal opportunity and the power to participate in the design and implementation of fisheries regulations, is especially important given the impact that fisheries management regulations have on reducing or increasing dangers at sea. In open-access fisheries, competition is the order of the day. Getting to and from the fishing grounds as fast as possible, and carrying home the largest possible catch, calls for increasing engine power, vessel size and gear efficiency.

3.10.3 Making the production of a safety certificate for a fishing vessel a pre-requisite for a fishing license is a practical example of overcoming the lack of motivation that has been a barrier to improved safety at sea for crew members for so long. However, this usually involves very close co-operation between different branches of Government administration.

3.10.4 The recent history of the development of fisheries management indicates that the governance of fisheries will eventually include direct involvement of fisheries participants, conferring user rights along with responsibilities. The management regime should not only aim to match the fishing fleet to the potential yield of the resource, but also to control the seaworthiness of the vessels, the working conditions on board and to ensure that the crew members have the necessary training and knowledge.*

* Refer to FAO Safety at sea as an integral part of fisheries management.

Chapter 4

Health and medical care

4.1 General

4.1.1 This chapter reviews the principles of health and medical care on board fishing vessels. It discusses how these may be applied for different types of fishing operation and on different types of vessel. Sections II and III of this part of the Code provide operational recommendations for small and large vessels.

4.1.2 The aims of health care in the fishing industry are to:

- 1 minimize the risk that health problems of the crew could jeopardize the safe navigation and operation of the vessel or affect the ability of the crew to react swiftly to emergencies;
- 2 reduce the risk of illness arising from hazards in the working environment;
- 3 reduce the probability of illness arising at sea which would put the sufferer at excess risk;
- 4 minimize the risk of infection;
- 5 make provision for the effective treatment of any illness or injury which may arise at sea; and
- 6 provide opportunities for health promotion to help crew members complete their career and have a healthy retirement.

4.1.3 Crew members may have special health care needs while ashore because of the risks of their work, the fitness requirements for it and their mobility. They should have access to affordable health services. There should be no discrimination against them and their dependants in access to, and receipt of benefits from, statutory social security programmes and occupational health schemes.

4.2 Fitness for work on board fishing vessels

4.2.1 Crew members should be medically fit for the duties they will be expected to undertake. Requirements will depend on the duties performed.

4.2.2 Where the fishery is near a port with adequate and available medical facilities, rapid access to medical attention in the event of the recurrence of a medical problem may be possible and so some fitness standards can be less stringent. On the other hand, distant water fishing may mean that there are long time delays in returning to port with an ill

crew member – causing increased risk and major operational consequences – and crew may therefore require a higher standard of fitness.

4.2.3 Medical fitness examinations and medical fitness certification of crew members may usefully be modelled on those used for merchant seafarers or those for small commercial vessels, where such exist. A certificate of fitness should have a set period of validity. The medical fitness certification should meet international minimum standards as provided by ILO and IMO, and should take into account ILO/WHO Guidelines for Conducting Pre-sea and Periodic Medical Fitness Examination for Seafarers.

4.2.4 Means may be required to ensure that any specific fitness standards are met. These may include, for instance, self-notification of illness, and checks of skin condition or screening for visual acuity by a competent person or a medical examination. The requirements for any such procedures should be publically available and specified in terms of the standards to be applied, who they apply to and when fitness should be assessed (for instance, in recruitment to the industry, periodically or after episodes of illness). The person responsible for ensuring that medical examinations are performed and the competencies of the examiner also need to be stipulated. Any person who is not satisfied with the initial decision regarding the fitness assessment, including any restrictions to duties, should have the right to appeal.

4.2.5 Assessments should be carried out in the interests of the individual and fellow crew members and not used as a means of unreasonable discrimination. In particular, safeguards are needed to ensure that those who are HIV positive, but not disabled, are not excluded from opportunities to work.

4.2.6 It is good practice to issue a certificate of fitness, which has a set period of validity.

4.2.7 The Competent Authority should ensure that those conducting fitness assessments of crew members are provided with guidance on the nature of work in the fishing sector and the risks of injury and diseases of persons working on board fishing vessels.

4.2.8 Owners and skippers should not engage a person for work on board a fishing vessel unless that person meets any national requirements concerning fitness standards for the duties to be undertaken on the relevant type of fishing vessel.

4.2.9 The individual should be made responsible for reporting any health problems which may affect fitness for work to the skipper prior to any voyage. This includes the use of medications which cause effects such as drowsiness. Medical advice may then be required on whether the person can safely go to sea until the problem has resolved.

4.2.10 Expectant mothers or new mothers should be allocated appropriate work to ensure that they are not exposed to any physical or chemical risk that would endanger the mother or the child.

4.3 Medical treatment at sea

4.3.1 Where a vessel is operating near to a port with adequate and available medical facilities, only the short-term management of injuries and very sudden illness would be required.

4.3.2 In distant water fisheries, equipment, facilities and skills may be needed to treat and care for a sick or injured crew member for several days.

4.4 Medical supplies and facilities

4.4.1 The medical supplies (medicaments and medical equipment) carried on board should be prescribed by the Competent Authority taking into account such factors as the type of fishing vessel, the number of persons on board, and the nature, destination and duration of voyages. The standards for medical supplies should take into account those issued by the relevant international or regional organizations, such as the list of medicines and guidance on surgical equipment, instruments and supplies provided in the *ILO/IMO/WHO International Medical Guide for Ships*. They should take account of any unusual risks, such as venomous creatures present in the fishery.

4.4.2 Medical supplies should be properly maintained and inspected at regular intervals in accordance with national requirements. They should be held securely but with access to those who need to use them at a location convenient to any onboard facilities for the care of ill or injured crew members.

4.5 Essential medical/personal information

4.5.1 Crew members should provide to the skipper or employer information which may be essential to emergency medical treatment in the event of injury or illness. This might include, for example, contact persons ashore (family member, friend, etc.); phone numbers, address, medical considerations, blood type, allergies (including allergies to medicaments), name of personal doctor, personal medical coverage (insurance) plan.

4.6 Persons providing medical care at sea

4.6.1 Crew members should receive instructions on the immediate action that should be taken on encountering an accident or other medical emergency and should be properly trained in emergency first aid (see appendix 3 to the annex, First aid and medical care). Skippers and senior

crew members, as specified by the Competent Authority, should receive suitable, more advanced training in the treatment of medical emergencies. Training and refresher training requirements should be specified by the Competent Authority.

4.7 Medical advice by radio

4.7.1 Fishing vessels should be equipped and have access to medical advice by radio or by other means of communication as appropriate to the service of the vessel.

4.8 Reporting of injuries

4.8.1 The Competent Authority should set out requirements, as appropriate, for the reporting of injuries. The information obtained in these reports should be used to identify areas for improved accident prevention and health promotion.*

4.8.2 Crewmembers should report all their injuries to the skipper without delay.

4.8.3 The skipper should report to the owner of the fishing vessel, all injuries that required medical care. All injuries should be recorded in the appropriate vessel log-book.

4.8.4 The owner should report injuries to the Competent Authority in accordance with national laws and regulations. A copy of the report should be given to the injured person or next of kin.

4.9 Health awareness and promotion

4.9.1 The content of health awareness and promotion activities should be proportional to the nature of the voyage. Where voyages are of short duration, shore-based initiatives are most likely to be feasible, but on longer voyages on-board programmes should be considered.

4.10 Drug and alcohol misuse

4.10.1 A drug and alcohol abuse prevention policy should be established for fishing vessels, as appropriate. This policy should include the dangers of the use of drugs for the purpose of overcoming fatigue or working excessive hours. Further guidance on this issue is contained in the ILO publication *Drug and Alcohol Abuse Prevention Programmes in the Maritime Industry*.

* Refer also to chapter 11 of section III.

4.10.2 Crew members should not be permitted to perform their duties when impaired by drugs or alcohol.

4.10.3 The policy should address, among other things, problems associated with crew members boarding or disembarking from a vessel in an impaired condition (a major source of fatal accidents).

4.11 Fatigue

4.11.1 Fishing vessel owners and skippers should be made aware of the safety and health risk associated with fatigue. Further guidance on fatigue is provided in appendix 2 to the annex.

4.12 Infectious diseases, including sexually transmitted diseases and HIV

4.12.1 The risks from infection will vary widely. Some, such as diarrhoea, may be transmitted by food, others, like tuberculosis, by coughing or exhaled droplets, a number of tropical infections, for instance malaria and dengue, by insects, while for others transfer of body fluids, normally during sex, is the main route.

4.12.2 Health monitoring, food hygiene and screening against insects all play a part in prevention.

4.12.3 Any sexually transmitted infection, in particular HIV, provided it is not disabling, is not a risk during normal shipboard activities. Testing is not required and its use and any action based on results is discriminatory. Information and advice on all aspects of the prevention of infection is a priority and national and industry bodies should take steps to provide it. Further guidance on this issue is contained in the ILO Code of Practice on HIV/AIDS.

4.13 Prevention of long-term health problems

4.13.1 Those working in the fishing industry may be at risk of long-term illness. Their lifestyle may make some risks, for instance, those of skin cancer from solar damage and heart disease from poor diet, obesity and smoking, greater than for those on shore.

4.13.2 The Competent Authority, owners and crew should collaborate in developing and implementing health awareness and promotion programmes appropriate to the risks present in their fishing crews. The setting for such initiatives may be on the vessel or in port. These may need to be supplemented by attention to aspects of working and living conditions at sea, such as the provision of suitable rations.

4.14 Guidance on the survival from sudden, unexpected immersion in cold water

4.14.1 Competent Authorities should disseminate guidance on the survival from sudden, unexpected immersion in cold water to fishing vessel owners, skippers, crew members, as well as to fisheries training institutions, fishing vessel owners' associations, representative organizations of the crew, search and rescue organizations, and others concerned.

4.14.2 Guidance on survival from sudden, unexpected immersion in cold water is provided in appendix 5 to the annex, Survival from sudden, unexpected immersion in cold water.

*Undecked vessels and decked
vessels of less than 12 m in length*

Chapter 1

Safety of the vessel

1.1.5 In situations where the Competent Authority does not operate a vessel monitoring system (VMS) and/or has no formal vessel position reporting requirement for fishing vessels, the skipper should also ensure that notice is left with a responsible person ashore indicating when the vessel would leave, the area where it would operate and when it would be expected to return.

1.1.6 If in doubt as to the suitability of weather for fishing, the skipper should cease fishing in good time and take precautionary action.

1.1.7 Necessary care should be taken to maintain adequate freeboard in all loading conditions, and where load line regulations are applicable they should be strictly adhered to at all times.

1.1.8 A sharp look-out should always be maintained, and the crew warned of the imminent danger of heavy oncoming seas, during fishing operations or while other work is being done in the exposed areas. Special care is required in bad weather, for example, by easing down when crew members are traversing the exposed areas.

1.1.9 The crew should be alerted to all the dangers of following or quartering seas. If excessive heeling or yawing occurs the speed should be reduced. Operation of vessels from unprotected beaches requires special skills, and special care should be taken in the surf zone. More detailed guidance is set out in appendix 8 to the annex, Crossing sand bars and beach landings.

1.1.10 Extra care should be taken when the vessel is hanging fast by its fishing gear.

1.1.11 Bilges should be kept drained and free of debris and oil. Rose boxes and suction strainers of bilge pumps should always be kept clean.

1.2 Special requirements for open fishing vessels

1.2.1 In case of open fishing vessels, where full stability information is not available, the skipper should be aware of how a simplified rolling period test can be conducted and of the importance to maintain sufficient freeboard to prevent the excessive shipping of water. An approximate determination of small vessels stability by means of the rolling period tests is given in appendix 6 to the annex.

1.3 Stability and associated seaworthiness

1.3.1 Skippers should have the knowledge of stability and associated seaworthiness.*

1.3.2 The skipper should be aware of the stability information supplied to the vessel which will enable him to judge the stability of the vessel in any condition of loading. Such information may be in a simplified format.

1.3.3 The initial stability of a fishing vessel can be approximately determined by means of the rolling period test. A suggested method for

* Refer to appendix 16 of FAO/ILO/IMO Document for Guidance on Training and Certification of Fishing Vessel Personnel.

carrying out this test is given in appendix 6 of the annex, Approximate determination of small vessel's stability by means of the rolling period tests.

1.3.4 Compliance with the stability criteria does not ensure immunity against capsizing regardless of the circumstances or absolve the skipper from his responsibilities. The skipper should, therefore, exercise prudence and good seamanship having regard to the season of the year, weather forecasts and the navigational zone and should take note of the particular advice contained in the following paragraphs of this section.

1.3.5 The skipper should take precautionary measures in order to maintain adequate stability of the vessel. All instructions concerning the vessel's stability issued by the Competent Authority should be strictly observed.

1.3.6 The stowing order of fish-holds should be such as to prevent extremes of trim or heel, or inadequate freeboard of the vessel.

1.3.7 To prevent a shift of the fish load carried in bulk, portable divisions in the holds should be properly installed.

1.3.8 Partially filled tanks can be dangerous; the number of slack tanks should be kept to a minimum.

1.3.9 Instructions given with regard to ballasting should be observed.

1.3.10 Where alterations are made to the vessel affecting its stability, the Competent Authority should approve the alterations before they are undertaken. Such alterations may be, for example, removal or shifting, either partially or fully, of the permanent ballast, conversion to new fishing methods, and change of the main engine.

1.3.11 The formation of ice on a vessel is dangerous and should be reduced by all practicable means. Attention is drawn to the Recommendation for skippers of fishing vessels on ensuring a vessel's endurance in conditions of ice formation, contained in appendix 10 to the annex.

1.3.12 All fishing gear and other heavy material should be properly stowed and placed as low in the vessel as possible.

1.3.13 Particular care should be taken when the pull from fishing gear might have a negative effect on stability (e.g. when nets are hauled by power-block or the trawl catches obstructions on the sea-bed). The pull of the fishing gear should be from as low a point on the vessel, above the waterline, as possible.

1.3.14 Gear for releasing the deck load in fishing vessels which carry the catch on deck (e.g. herring) should be kept in good working condition.

1.4 Freeing ports

1.4.1 Care should always be taken to ensure the quick release of water trapped on deck. To lock freeing port covers is dangerous. If locking devices are fitted, the opening mechanism should always be easily accessible. Before vessels depart into areas subject to icing, freeing port covers, if fitted, should be kept in the open position or removed.

1.4.2 When the main deck is prepared for carrying deck load by dividing it with pound boards, there should be slots between them of suitable size to allow easy flow of water to freeing ports, thus preventing the trapping of water.

1.5 Opening and closing appliances

1.5.1 All doorways, ventilators and other openings through which water can enter into the hull or deckhouses, forecastle, etc., should be suitably closed in adverse weather conditions and accordingly all fixtures and appliances for this purpose should be maintained in good condition.

1.5.2 The fittings for closing and securing hatches should be kept in good condition.

1.5.3 All hatches and flush deck scuttles should be closed and properly secured when not in use during fishing.

1.5.4 During fishing operations the number of open hatches should be kept to a minimum.

1.5.5 In bad weather, inspections should be made to ensure that hatch covers and lashings are in order.

1.5.6 Hatch boards should have numbers cut out on them so that they may be replaced in the proper order, numbering from fore to aft.

1.5.7 When hatch covers are removed they should be stacked in such a way as to allow free passage alongside the hatch coaming.

1.5.8 To prevent personal injury, care should always be taken when hatch covers are being opened or closed.

1.5.9 Open or partly open hatches should not be covered with tarpaulins.

1.5.10 Manholes should never be left open or floor plates removed without stanchions and guard ropes in place, and lights and warning signs displayed to prevent persons from straying into danger.

1.5.11 Chutes for the disposal of fish offal which could be submerged by rolling motions should be kept properly closed when not in use.

1.5.12 All side scuttles and port deadlights should be maintained in good condition and securely closed in bad weather.

1.5.13 All vent pipes to fuel or water tanks should be properly protected against the entry of water in bad weather.

1.5.14 All sounding pipes should be maintained in good condition and securely closed when not in use.

1.5.15 All closing appliances mentioned in this section as well as those of all inlets and discharges in the shell plating should be periodically inspected.

1.6 Anchors, cables and chains

1.6.1 Anchors, cables, chains and associated blocks, sheaves and rollers should be periodically inspected and tested according to the requirements of the Competent Authorities.

1.6.2 Chains and cables should be withdrawn from use whenever external defects are evident. Broken chains should not be rejoined by wiring links together, by inserting bolts between links, or by passing one link through another and inserting a bolt or nail to hold it. Knots should never be put in chains and cables. Defective chains and cables should be repaired only by properly qualified persons using suitable equipment for the purpose.

1.6.3 Chains and cables that are wound on drums or pass over blocks, sheaves or rollers as well as the bearings of such blocks, sheaves and rollers should be lubricated at frequent and regular intervals.

1.6.4 Surfaces of the hull and deck, which are in contact with the anchors, anchor chains or anchor wires, should be properly protected and maintained in good condition.

Chapter 2

Safety in machinery spaces and of mechanical equipment

2.1 Introduction

2.1.1 Many accidents aboard fishing vessel occur through design defects, poor maintenance and the misuse of machinery. The former condition is addressed in part B of the Code, whereas the maintenance and proper use of machinery and equipment should be addressed through safety training and proper supervision by Competent Authorities, owners and skippers, as well as through the self discipline of crew members.

2.1.2 In the case of small decked vessels and undecked vessels, where propulsion machinery is often mounted over the stern or over the side, additional safety issues should be taken into consideration when there is a need to bring such machinery inboard at sea as well as unshipping the units in harbour or on the beach.

2.1.3 Certain parts of this chapter overlap with chapter 4 on Safety in fishing operations and fish handling, chapter 5 on Safety in exposed areas and chapter 6 on Special precautions since machinery is used in harbour, as well as, at sea. In addition, whereas the provisions set out below refer to the safety of crew members, it should be understood that when in harbour, as well as within repair facilities, other codes of conduct and/or safety regulations may have to be taken into consideration by owners and skippers.

2.2 Main propulsion and auxiliary machinery

2.2.1 The Competent Authority should ensure that all undecked and decked fishing vessels of less than 12 m in length are designed, constructed and equipped in a manner that contributes to the safety and health of those on board under all operational conditions.

2.2.2 Furthermore, the Competent Authority should also ensure that training facilities are made available to all crew members. Training programmes should be developed taking into account the means of propulsion and equipment in common use aboard small fishing vessels and that the crew members would probably not have a mechanical background.

2.2.3 Owners should ensure that instruction manuals supplied by manufacturers are carried on board, concerning the proper operation of machinery and the proper fuels and lubricants to be used.

2.3 Sail

2.3.1 Where wind power is the sole or auxiliary source of power, crew members should be properly instructed in the use of sail and the adverse effect on stability, particularly under strong wind conditions.

2.3.2 The condition of running gear, rope blocks, masts and sails should be included in mandatory safety inspections.

2.4 Outboard and long-pole engines

2.4.1 Engines mounted over the stern or over the side should be provided with secure fastening devices. The fuel supply piping should be so arranged that it would not be an impediment to the free movement of the crew members and should be shielded from fishing gear to prevent damage during fishing operations. Where practicable, fuel supply tanks should not be located close to sources of heat, including sunlight.

2.5 Inboard engines

2.5.1 Propeller shafting should be guarded for the protection of the crew. Removable covers should be provided for the inspection/lubrication of bearings and inspection/adjustment of the stern gland.

2.5.2 Power take-off points, their shafting and belt/chain drives should be adequately guarded to prevent accidents to crew members. The guards should be of a type that can be fixed in position.

2.5.3 Exhaust piping should be adequately insulated to protect crew members from burns. Where insulation is not fitted, the un-insulated sections should be suitable guarded and an air gap provided between the guard and the exhaust.

2.5.4 Where engines are designed to be hand cranked by means of a flywheel handle, the design should ensure that the handle would be disengaged in the event of recoil. Crew members should be instructed in the proper handling of such devices, including how to grip the handle with the thumb on the same side as the fingers of the hand holding the handle.

2.6 Deck machinery

2.6.1 Crew members should receive sufficient training to ensure that they are fully conversant with winches and other hauling devices for which they would be responsible, including their safe operation and routine maintenance. In particular, they should be made to understand that deck machinery should not be left unattended with power on or with a load suspended. They should also be made aware of the danger of trying to lift or pull too great a load by placing extra turns of rope or wire on a warping drum.

2.6.2 Moving parts of winches, line hauling and net hauling equipment as well as moving parts of warp and chain leads, which may present a hazard, should be as far as practicable adequately guarded and fenced for the protection of the crew.

2.6.3 The design and location of winches, line and net hauling equipment should ensure that controls are placed so that winch operators have ample room for their unimpeded operation and have as unobstructed a view as possible of the working area. Where practicable, control handles should be designed to return to the stop position when released and be provided, where necessary, with a suitable locking device to prevent accidental movements or displacement or unauthorized use. Such controls for deck machinery should have clear operating instructions attached to or adjacent to them.

2.6.4 Winches should be provided with means to prevent over-hoisting and to prevent the accidental release of a load if power supply fails. Where practicable, winches fitted with wire storage drums should be used to avoid the need to use warping heads, which could place the operator in danger.

2.6.5 Winches should be equipped with brakes capable of effectively arresting and holding the safe working load. The brakes should be proof-tested to the satisfaction of the Competent Authority before installation of the winch under a static load of not less than 1.5 times the designated safe working load. Brakes should be provided with simple and easily accessible means of adjustment to prevent grabbing, chattering or slipping.

2.6.6 Ropes or wires should be led onto winches as directly as possible, but not at severe angles and they should not be guided on to the drums by hand. Where winches are fitted with manually operated “guiding on” gear, the operating wheels should be without open spokes or protrusions that could cause injury to the operator and should be capable of being disengaged when the warps are paying out.

2.6.7 Winch barrels should be provided with means for fastening wire ends, for instance, clamps, shackles or other equally effective method, to reduce the danger of wires, under tension, parting from the winch. Warp guards should be fitted where practicable between warp lead rollers. Guards for sheaves and rollers should be of a type that would facilitate regular inspection, lubrication and maintenance.

2.6.8 Where any item of deck machinery is controlled from the wheel-house, it should also be possible to stop the machinery in an emergency, at a point close to the machinery. Where necessary, means should also be provided to stop machinery by crew members that may be endangered when handling fishing gear at a point distant from a winch or line hauling equipment. Where deck machinery is controlled from the steering position, the arrangements should be such that the operator has a clear view of the machine and adjacent area.

2.6.9 Where practicable, provision should be made to stop trawl boards swinging inboard, such as the fitting of a portable prevention bar at the gallows aperture or other equally effective means. Chains or other suitable devices should be provided for “stoppering off”.

2.6.10 Lifting and hoisting appliances should have easy access for maintenance. Guards should be provided to prevent any undesirable movement of lifted or hoisted parts, such as the cod end or pots, which could present a danger to the crew.

2.6.11 All elements of a fishing gear system, including warping heads, winches, tackle, nets, etc., should be designed, arranged and installed to provide safe and convenient operation. In so far as is possible, such components should be of a suitable strength so that in the event of an overload strain the failure will occur on the designated weak link in the system. All crew members should be made aware of the designated weak link in the system.

2.6.12 Wire ropes used for hoisting and warps should be maintained in good condition and suitable for the work to be performed. They should not have knots, kinks, reverse bends or broken strands. Ends of wire ropes should be seized or otherwise secured to prevent the strands from coming loose. All parts of running gear and associated equipment should be maintained in good repair and working order and all shackles used aloft should be of a locking type or fixed in such a manner that they cannot come loose.

2.6.13 When renewing warps, the correct size and length should be obtained so that the winch drum can accommodate the full length. When the warp is fully unwound, three complete turns should remain coiled on the drum.

2.6.14 The owner and skipper should conduct a formal inspection all running gear and associated equipment at least once in every twelve months. The result of the inspection may be used to form part of a general safety assessment report that may be required by the Competent Authority.

2.6.15 Where hoisting machinery, derricks and associated running gear are fitted, the whole system should be load tested at not more than two-year intervals. A competent person, authorized by the Competent Authority, should carry out the test in the presence of the owner or owner’s representative. The inspecting authority should issue a certificate and inspection report to the owner.

2.6.16 Should any component of hoisting equipment, derricks and associated running gear have to be replaced it should be of the same size and safe working load as the original. Furthermore, no alterations should be made without the prior approval of the manufacturer and, should such alterations be approved, the load test mentioned in 2.6.15 above should be undertaken.

2.6.17 The design and construction of winches, line and net hauling devices and other hoisting equipment should be such that the maximum effort necessary for operating hand-wheels, handles, crank handles, levers, etc. should not exceed 160 N and in the case of pedals not exceed 320 N.

2.6.18 In undecked vessels, the arrangement for fishing operations should be such that crew members have a secure footing and that they do not have to extend the body over the rail to the point that they could be off balance and fall overboard.

2.7 Refrigeration systems

2.7.1 It is highly unlikely that refrigeration plants would be fitted aboard undecked vessels. They may, however, be fitted in decked vessels, whether for the preservation of the catch or for domestic purposes. In such cases, installation should conform to regulations prescribed by the Competent Authority.

2.7.2 Adequate guidance for the safe operation and emergency procedures for the refrigeration system should be provided by having suitable notices displayed on board the vessel in a format readily understood by the crew members.

2.7.3 No flame-producing devices, or hot surfaces or smoking which may cause explosions, should be permitted in spaces in which refrigeration machinery or equipment using flammable gas is installed.

2.7.4 Crew members should be instructed in the proper running of refrigeration plants and, in particular, safe methods of gas leakage detection.

2.7.5 In relation to the safety and health of crew members, owners should ensure that protective clothing is provided in the event of an emergency. Further information to owners is given in appendix 11 of the annex to this part of the Code and annex IV to part B of the Code.

2.8 Compressed air systems

2.8.1 Compressed air systems, whether for general purposes or for diving, should be installed and their air reservoirs tested, to the satisfaction of the Competent Authority. Special attention should be given to portable systems that may also be carried by undecked vessels.

2.8.2 Crew members should have a basic knowledge of the dangers of allowing water and oil to accumulate in compressed air systems and with the need to drain air reservoirs and discharge lines regularly. Particular attention should be given to the maintenance of intercoolers to limit the possibility of high compressed air temperatures that could lead to an explosion if oil is present.

2.9 Gas cylinders and installations

2.9.1 Should cylinders for compressed, liquefied and dissolved gases be carried on small vessels, they should be clearly marked as to their contents by means of prescribed identification bands of colour and have a clearly legible indication of the name and chemical formula of the contents. Crew members should be aware of the types of fittings and valves that are associated with particular gases and of the need to ensure that only the correct gas is connected.

2.9.2 Cylinders containing flammable or other dangerous gases should be stowed above deck external to the superstructure, and all valves, pressure regulators and pipes leading from the cylinders should be protected against damage. Cylinders should be protected against excessive variations of temperature, direct rays of the sun, accumulation of snow, and continuous dampness.

2.10 Electrical systems

2.10.1 To minimize hazards, all electrical equipment and circuits should be designed, installed and maintained in accordance with regulations established by the Competent Authority. Owners should ensure that only competent persons are permitted to install and maintain or remove electrical equipment or circuits. Unauthorized installation of electrical equipment of any kind should be considered to be a danger to the vessel and its crew and should be forbidden.

2.10.2 There should be a requirement for detailed diagrams of electrical systems to be carried on board decked vessels and partially decked vessels.

2.10.3 Electrical switchboards should have guards to prevent the accidental tripping of circuits by a person falling towards the switchboard. Switchboards of the live-front type, commonly found on small vessels, should be adequately protected to reduce the possibility of injury to a person making contact with live components. Access to the back of switchboards of the dead-front type, where fitted, should be limited to authorized personnel.

2.10.4 The design of machinery space layouts should ensure that piping carrying fuel, steam or water would be clear of electrical switchboards, generators, motors and other electrical equipment.

2.10.5 All electrical equipment should be earthed or otherwise suitably protected. Earth lamps located at the switchboard should be provided and the responsible crew members should be instructed to remedy any faults as soon as possible.

2.10.6 Electrical equipment exposed to the weather should be protected from dampness, corrosion and mechanical damage.

2.10.7 Storage batteries should be stored in hermetically sealed containers, lined with acid-resistant material and fitted with a ventilating pipe exiting above deck or superstructure level to the satisfaction of the Competent Authority.

2.10.8 Since many small decked and undecked vessels may be fitted with low-voltage lamps powered by non-rechargeable batteries, there should be a requirement for the carriage of spare batteries and bulbs, as well as their stowage.

2.10.9 Portable electrical tools and portable lamps, other than domestic-type torches, should be of an approved type. A competent person should inspect such tools and lamps regularly and, where possible, they should be intrinsically safe.

2.10.10 Portable electrical generators, such as used in light attraction fishing operations or in battery charging, should be fitted with a circuit breaker. Such units should be secured in position under operational conditions.

2.10.11 Crew members should be given clear instructions regarding the limited intervention that could be expected of them concerning:

- .1 testing procedures for electrical circuits;
- .2 standing procedures for the isolation of circuits and/or equipment prior to hands-on maintenance;
- .3 routine inspection of electrical machinery and equipment and fault detection;
- .4 proper maintenance of circuit breakers and fuse carriers as well as the need to ensure that designated power ratings are not exceeded. Instruction should include the dangers of bypassing or bridging fuse carriers; and
- .5 the proper maintenance of storage batteries and the need for them to be stored in ventilated boxes/compartment as well care to be taken due to the possible accumulation of phosgene gas, which is toxic and flammable. There should be no smoking or open flames in the vicinity of battery storage areas.

2.10.12 All circuits should be clearly identified at main switchboards, auxiliary switchboards and distribution boxes. The markings should be in a language understood by the crew members and should be maintained in good and legible condition.

2.11 Hand tools

2.11.1 The owners should supply hand tools for maintenance together with safety instructions for their use.

2.11.2 Such hand tools should be of good material and construction and should be maintained in good condition. A competent person should check hand tools periodically and defective tools should be immediately repaired or replaced.

2.11.3 Owners should ensure that spanners supplied are of the correct sizes, taking into consideration the variety of nuts and bolts within the vessel. Special tools supplied by machinery and equipment manufacturers should be kept apart from general hand tools, preferably in boxes that are clearly marked to identify their specific use.

2.11.4 Where an eyebolt is supplied for lifting heavy components, the length of the threaded end should be one thread less than the depth of the threaded hole to ensure that it can be screwed down as far as the collar of the eyebolt. Over-length eyebolts should not be used since any sideways pressure could lead to their bending and fracture and possible injury to a person.

2.11.5 Crew members should be instructed in the proper use and maintenance, as well as dangers arising from misuse. Such instruction should include, *inter alia*:

- .1 hand tools used on board should be suited to the material the vessel is constructed of or to the surface upon which they will be used;
- .2 hand tools should only be used for the purpose for which they are intended;
- .3 the proper use and handling of adjustable wrenches and pipe wrenches;
- .4 cold chisels and punches to be preferably held between the thumb and index finger with the palm of the hand open and turned towards the holder;
- .5 the danger of hammering on the hardened surfaces of tools, machinery or equipment which could cause metal splinters to fly and cause eye damage;
- .6 tools or small parts of equipment should never be left lying on or in the machinery space or aloft above deck. They should always be placed in a box, bucket or bag, or lashed to prevent them from accidentally falling and injuring persons passing or standing below. When passing tools down from an elevated position, a gant-line should be used;
- .7 the danger of using tools of any description on moving machinery should be emphasized and that tools and other gear should be removed before restarting a machine that has been serviced; and
- .8 in vessels constructed of polyester-reinforced fibreglass, the working area should be protected during maintenance or repair operations to prevent the laminate from being accidentally damaged by a falling tool or as a result of the user striking it in an inappropriate place.

2.11.6 Crew members should be instructed that special precautions need to be taken during repair or maintenance operations and that joints made with polyester-reinforced fibreglass should be covered.

2.11.7 Crew members engaged in fishing operation should also be instructed to:

- .1 keep all tools clean, use the right tool for the job and keep cutting tools sharp and stored safely when not in use;
- .2 ensure that handles of knives have hilt guards or finger grips, to prevent the hand sliding on to the blade; and
- .3 ensure that open-bladed knives, fish-hooks, gaffs and similar sharp implements are sheathed or otherwise put safely away when not in use.

2.12 Torches, blowlamps and hot work

2.12.1 Safety instructions concerning the use of blowlamps should be supplied and the crew members instructed in their use. Special attention should be given to the need to maintain a careful watch when oxyacetylene welding and cutting torches are in use.

2.12.2 Attention should also be given to the need to ensure that blowlamps should not be completely filled with fuel and that only small filler cans should be used to fill the preheated pans.

2.12.3 Where hot bulb engines are still in use, the same instructions given above apply and, in addition, blowlamps should be securely fitted to the engine.

2.12.4 Crew members should not be allowed to undertake soldering, welding and similar hot work on tanks and other containers holding flammables or on empty tanks and containers which have held flammables or acids.

2.13 Maintenance of machinery and equipment

2.13.1 Main and auxiliary machinery should be fitted with means to block the engines and/or propeller shafting from accidentally turning when maintenance is being carried out. In the case of large engines, mechanical means for turning the engine may be accepted provided that the operating handles or switches can be locked in the stop position or fuses can be removed and the fuse box is capable of being locked.

2.13.2 Means should also be provided to block the movement of a rudder(s) when maintenance is being carried out on steering gear in port or when emergency repairs are carried out at sea.

2.13.3 Where mechanical devices are used to handle anchors, means should be provided to lock chains and/or wires attached to anchors when maintenance is being carried out on the mechanical device to ensure that the device cannot be accidentally turned through movement of the chains and/or wires.

2.13.4 Instructions to crew members should include the need to immobilize the means for starting machinery on which maintenance is being carried out.

2.13.5 Where practical, lifting equipment should be carried on board for the safe handling of heavy items. There should also be ample space around machinery to allow crew members to work in safety.

2.13.6 To reduce the danger of accidents to crew members, outboard engines and long-pole engines should be taken inboard or taken ashore for maintenance.

2.13.7 Crew members should be instructed to keep bilge areas clean and dry and that suction strainers should be cleaned out regularly. Where emergency hand pumps are fitted, they should be tested regularly. In undecked vessels, where bailing scoops may be carried, they should be maintained in good condition at all times.

2.13.8 There should be a requirement for regular fire drills to be carried out during which both primary and emergency fire pumps should be operated separately and monitored. Where the approved arrangement allows for parallel operation, such pumps should be operated at the same time.

2.13.9 Routine inspection of machinery spaces should include the observation and cleaning of fuel and lubricating oil filters; this should also apply to any emergency plant such as an emergency fire pump or electrical generator.

2.14 Tanks

2.14.1 In decked vessels, the design should ensure that fuel tank filling pipes terminate above deck. However, where this is not practicable, the vessel should be equipped with funnel or other leakproof attachment that can be screwed into the tank filling connection to prevent spillage in the machinery space. Irrespective of the actual fitting, the bunkering operation should always be supervised and at a rate to ensure that, should there be a possibility of spillage, the flow of oil to the vessel can be immediately stopped.

2.14.2 Where gauge glasses are fitted to fuel tanks and in order to prevent leakage of fuel due to a broken glass tube, the valve connection to the tank at the lower end of the gauge should be a self-closing type to ensure that the tank is not continuously open to the gauge glass. The self-closing device should also be of a type that automatically drains the gauge glass to a safe place.

2.14.3 Where fuel tanks are fixed in position in undecked vessels, the filling arrangement should ensure that spillage does not occur.

Chapter 3

Fire precautions and fire fighting

3.1 General

3.1.1 The Competent Authority should ensure that the following principal fire safety objectives are fully understood by all persons concerned with the design, construction, operation and inspection of fishing vessels, as well as those persons involved in the training and certification of crew, in order to:

- .1 prevent the occurrence of fire and explosion;
- .2 contain, control and suppress fire and explosions, in the compartment of origin; and
- .3 provide adequate and readily accessible means of escape.

3.1.2 The Competent Authority should keep all those concerned with the safety of fishing vessels advised of the best practices in the control and management of situations in which the risk of fire proves a threat to life and property. Typically, this might be achieved by publicizing and making available literature, such as the IMO Fire-Fighting Booklet* and video presentations.

3.1.3 The Competent Authority should ensure the development of a scheme of safety training courses graduated for the various levels of skill within the national fishing fleet. These should be designed to address fire precautions and fire fighting from basic introductory courses, for new entrants, to safety awareness, for established crew members, and crisis management and emergency control for more senior crew members.

3.1.4 The crew should be aware of the location and operational features of all the fire-fighting equipment of the vessel and should be trained in the specific fire emergency procedures of the vessel.

3.1.5 The crew should note the condition of fire-fighting equipment and report to the skipper the equipment which is in need of servicing, maintenance, repair and/or survey.

3.1.6 The skipper should ensure that the vessel is kept clean and free from combustible debris.

* Refer to IMO Fire-Fighting Booklet (MSC/Circ.62, 28 May 1969).

- .1 fuel or oil tanks;
- .2 paint lockers and storage spaces for flammable materials;
- .3 the refrigeration plant and tanks where flammable gases are used;
- .4 near liver boilers;
- .5 near electric storage batteries;
- .6 in galleys and food stores; and
- .7 in the vicinity of sounding pipes and air vent pipes serving tanks containing combustible liquids.

3.2.3 Notices referred to in 3.2.1 should be observed; fire is a vessel's greatest hazard. Cigarettes or matches should not be thrown into places where they would be liable to start a fire. Suitable containers should be provided and used. Cigarettes and ashes thrown overboard often blow back aboard to start fires. Crew members should be continually reminded of the need for fire safety and of the prohibition of smoking in certain areas.

3.3 Fire prevention and precautions

- .1 the proper education and training of crew members in fire prevention;
- .2 provision of the proper fire-extinguishing appliances in suitable locations;
- .3 maintenance of cocks, pipes and fittings in oil systems free from leaks;
- .4 cleanliness of machinery, boiler spaces and galleys; and
- .5 the taking of precautions by crew members when performing work which involves possible fire hazards.

3.3.2 Fire-fighting equipment should always be kept in its proper location, maintained in good working order and be available for immediate use.

3.3.3 Fire extinguishers should be periodically checked to ensure that they are in an efficient working condition and properly charged and tagged. Whether or not they are required by the Competent Authority, refill charges should be readily available.

3.3.4 Any fire-fighting equipment carried in excess of the requirements of the Competent Authority should also be kept in good working order and ready for use. The Competent Authority should ensure that inspections on all fire-fighting equipment are carried out.

3.3.5 The greatest care should be taken to keep bilges and woodwork or other porous material free of petroleum products. The importance of good housekeeping on board cannot be over-emphasized.

3.3.6 Heating appliances such as galley ranges, space heaters, etc. should not be used for drying clothing, linen, etc. because of the danger that such clothing, linen, etc. may interfere with the ventilation arrangements of the appliance or fall onto the appliance and catch fire. Curtains and other hanging textile materials should not overhang or be fitted sufficiently close to an oil-fired appliance where there is any danger of them coming into contact with the appliance.

3.3.7 Rags and other flammable material should be prevented from coming into contact with steam, hot oil or water lines or other heated surfaces because of the hazard of spontaneous combustion. Oily rags should not be left lying about, but should be suitably disposed of.

3.3.8 Oil fittings should be kept perfectly tight in order that fuels or their vapours may not escape. Metal drip trays should be provided, where necessary.

3.3.9 Remote controls from deck for oil fuel pumps, valves in oil fuel lines as well as fuel lines to galley ranges should be kept in good operational condition and unobstructed.

3.3.10 Only safe lighting should be used when examining engines, oil tanks and bilges. Lamps having naked flames should never be used for this purpose.

3.3.11 Portable electric or oil heaters should not be used on board. Where seasonal heating is necessary, the heaters should be securely fixed.

3.3.12 In no case should a petrol or paint can, either empty or full, be placed in the crew's living quarters or in a compartment where lamps having naked flames are used.

3.4 Fire fighting

3.4.1 Successful fire fighting is usually totally dependent upon those on board. Fire-fighting drills should, therefore, be performed at regular intervals and simulate realistic situations. The purpose of these drills should be to ensure that all fire-fighting equipment is in good condition, as well as to ensure that all crew members know allocated stations and duties, the location of fire-fighting equipment, the way it works and how it should be used.

3.4.2 Fire drills should include the donning of protective clothing provided, the use of breathing apparatus and the testing of the means of communication provided.

3.4.3 As soon as a fire is discovered, the following action should be immediately taken:

- 1** shout “fire” and raise the alarm;
- 2** if fire starts in the accommodation area, make certain that the area is evacuated; and
- 3** close portholes and skylights, shut off ventilators, switch off electrical appliances and shut the door.

3.4.4 If the fire is small, it should be fought in the first instance with portable extinguishers. If, however, the fire becomes large, it should be fought with fixed installations and/or fire hoses.

3.4.5 The fire fighters should always use the protective clothing and other equipment provided. Special care, including setting up the means of communication, should be taken when combating fire in enclosed spaces and/or in spaces where manoeuvrability and ready exit may be restricted.

3.4.6 In fighting fires, the fire fighters should keep as low as possible to avoid the heat. Water spray can be used as a protective screen.

3.4.7 Water, soda-acid or foam extinguishers should never be used on electrical fires or near live electric lines or appliances.

3.4.8 Water should not be used on oil fires.

3.4.9 When a large quantity of water is used for fire fighting, skippers should be aware of its adverse effect on the vessel’s stability, and ensure that surplus water is drained or pumped out.

3.4.10 When a gas smothering installation is used, care should be taken to ensure that the compartment is evacuated and properly closed down before the gas is released, that it remains closed long enough to ensure the fire is extinguished and that the compartment is properly ventilated before re-entry.

3.4.11 When the fire is extinguished, everything should be soaked thoroughly and all loose furnishings, mattresses, etc. should be removed to deck; watch should be kept for several hours to prevent reignition.

Chapter 4

Safety in fishing operations and fish handling

For this chapter the methods of Danish seining and purse seining are unlikely to be carried out on these vessels and are not considered. In the unlikely event of this being the case, section III should be referred to.

4.1 General

4.1.1 The skipper should ensure that a sharp look-out on all fishing operations is kept at all times and use signals which are positive and clearly understood.

4.1.2 Many accidents are caused by the failure of running gear when under tension. Fishing gear should be in good order and all parts of hauling gear, hoisting gear and related equipment should be checked before use.

4.1.3 Crew members should avoid getting entangled in the fishing gear and getting their fingers caught in the meshes of the net, particularly when shooting the gear. Crew members should not wear rings when handling nets or other fishing gear.

4.1.4 Many accidents occur when shooting and hauling the fishing gear, and crew members should stand clear of running ropes or warps so that the vessel's motion does not throw them onto the ropes or warps. They should keep clear of outrunning gear of all types, and should not stand on parts of the gear lying on deck when the remaining part is still in the water. The exposed areas are a dangerous environment, particularly in adverse weather conditions. During shooting and hauling any fishing gear, crew whose presence is not necessary for the operation should keep clear of the operating area.

4.1.5 When normal shooting and hauling procedures are disrupted, for instance when the fishing gear gets tangled, the crew have to use non-standard procedures. When fishing gear is tangled, it should be cleared in the safest possible way.

4.1.6 The sea has been used in the past to dispose of dangerous items and substances. Many mines and items of war still litter the seabed. Substantial amounts of outdated munitions were disposed of in deep waters which, at the time, were not subject to fishing activities. Crew members should be aware of the dangers of handling unfamiliar objects,

such as explosive devices or drums of chemicals, hauled up by the fishing gear.

4.1.7 Fasteners (obstructions to gear on the sea-bed) are a source of danger on deck until the last section of gear is on board. The tension in the warps to clear fasteners should be from as low a point and as near to the vessel side or stern as possible. Great strains can occur in unexpected places when heaving on taut warps or by the motion of the vessel. Fasteners which result in the gear being parted at one end and the entire load being hauled from one warp present dangerous situations.

4.1.8 Crew should not risk crushing their fingers by trying to clear a line from the sheave of a block. Proper tools should be used. Blocks and sheaves under tension are potential hazards and the tension should be removed prior to clearing the warp.

4.1.9 At least three complete turns of a trawl warp should remain around a trawl winch drum at all times; the end of the warp whipping off the drum could cause serious accidents.

4.1.10 New crew members should be briefed on the nature of all operations on board and dangers and risks of work allocated to them in respect of fishing operations explained.

4.1.11 When a whipping drum is being used, care should be taken to keep clothing, particularly scarves and loose clothing, clear of it.

4.1.12 In fishing operations, the procedures of hauling and shooting consist of routine procedures which the crew carry out daily. In unusual situations that occur infrequently, new crew are not aware of the procedures and many accidents result. In these unusual situations, only experienced crew should carry out these activities and they should consider the possible consequences of their actions.

4.1.13 When crew members are involved in shooting and hauling gear, they should wear appropriate flotation aids.

4.2 Trawling

4.2.1 The vicinities of bollard fairleads are danger areas, and crew should never get too close when the gear is being worked.

4.2.2 Crew should pay special attention to ropes connected to the net, such as bridles, false headlines, etc., when shooting. They should never stand in the bights of such ropes.

4.2.3 If a headline float gets caught in a crew member's clothing, it should be released at once by cutting the clothing.

4.2.4 When a net becomes fast to an obstruction on the sea-bed (a fastener), the winch drum brakes should immediately be released. The skipper should never try to recover a net from a fastener with the warp